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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/746,675	12/22/2000	Lawrence T. Clark	42390P9854	1642
8791	7590	12/02/2003	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD, SEVENTH FLOOR LOS ANGELES, CA 90025			DEMAKIS, JAMES A	
			ART UNIT	PAPER NUMBER
			2836	

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/746,675

Applicant(s)

CLARK ET AL.

Examiner

James A Demakis

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Amendment of 7/11/2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 15 and 18-21 is/are rejected.
- 7) ☒ Claim(s) 12-14, 16-17, 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities: please delete the contradictory definition of the term "coupled" used on Sheet 4, lines 6-7...."Coupled" may mean that two or more elements are in direct physical or electrical contact.....

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the fourth paragraph of 35 U.S.C. 112:

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

3. Claims 3,5 are rejected under 35 U.S.C. 112, fourth paragraph, as failing to further limit the independent claims because the independent claim is a method while the dependent claims are limitations directed to structural elements. Structure does not further limit a method claim.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2836

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2,4,6-11,15,18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maloney et al (USPN 5907464) and in view of Hirayama et al (USPN 5461338).

Regarding claims 1-2,4,6-11,15,18-21:

Maloney et al disclose ESD protection MOS circuits for an IC, such as in Figure 5 where PFET 502 is used as an ESD clamp to conduct charge away during an ESD event, yet be turned off during normal operating conditions, see Col. 4, lines 52-60. Also, Figure 8 shows a PMOS clamp with the use of series transistors, PFETs 828 and 830 as a switchable conductive circuit, either or both may be switched. Additionally, Figure 10 shows the use of a resistive connected PFET 1024 and NFET 1026 which controls the substrate/n-well biasing of the PMOS 1010 clamp. Maloney et al do not discuss the reverse substrate biasing when the transistor is in the standby mode without an ESD event.

Hirayama et al disclose the use of body bias to reduce leakage currents. From an active mode to a standby mode, a control circuit 4 changes the substrate bias voltage to cause a reverse bias in the transistor body or substrate, by increasing threshold voltages of a MOS transistor during the standby mode to reduce or cutoff leakage current, see Col.2, lines 26-39.

It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Maloney et al with the teachings of Hirayama et al to increase the threshold voltage and thereby decrease the leakage current when the transistor is standby and not in the ESD protection mode, because reducing leakage current reduces the overall power consumption of the IC.

*Allowable Subject Matter*

6. Claims 12-14,16-17,22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Response to Arguments*

7. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

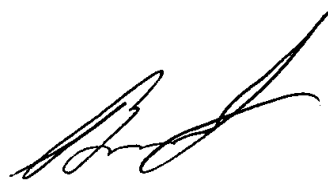
*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Demakis whose telephone number is 703.305.7938. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 703.308.3119. The fax phone number for the organization where this application or proceeding is assigned is 703.872.9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0956.

James A. Demakis  
11/19/03



BRIAN SIRCUS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800